29. (New) A compact, fiber reinforced rod for optical cables comprising:

a plurality of elongated fiber members encased in a matrix of a UV cured vinyl ester resin material; and

an outer topcoat layer substantially surrounding said matrix, said outer topcoat layer comprised of an ethylene acrylic acid copolymer resin.

REMARKS

To further prosecution of the present application, the Applicants have herein amended claims 1 and 6, cancelled claims 7 and 8, and added new claim 29. The amendments to claims 1 and 6, and new claim 29 do not add new subject matter to the present application and have antecedent basis. The Applicants respectfully request reconsideration. Claims 1-6 and 23-29 are now pending in the application with claims 1 and 29 in independent form. The Applicants respond below to the issues raised in the Examiner's Action.

Claim Rejections Under 35 U.S.C. § 112

The Examiner has rejected claim 6 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicants regard as the invention. Specifically, the Examiner indicates that the use of the trademarks VINCH 500 and 17-41B identify the source of the goods and do not identify or describe the goods associated with the trademark. The Applicants have amended claim 6 to include language describing the group of copolymer materials from which the UV cured vinyl ester resin material of claim 1 is selected. The Applicants respectfully submit claim 6 as amended is definite, and requests withdrawal of the rejection of claim 6 under 35 U.S.C. § 112, second paragraph.

Rejection of Claim 1 Under 35 U.S.C. § 102(b)

Claim 1 has been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,700,417 to Fernyhough et al. (hereinafter "Fernyhough"). The Applicants

respectfully traverse the rejection of claim 1 as being anticipated by Fernyhough for the following reasons.

Claim 1 has been amended herein and is directed to a compact, fiber reinforced rod for optical cables comprising a plurality of elongated fiber members encased in a matrix of a UV cured vinyl ester resin material, and an outer topcoat layer substantially surrounding said matrix. The outer topcoat layer comprises a thermoplastic hot melt resin of polybutylene terephthalate and polyether glycol copolymer material.

As the Examiner notes in the present and previous Office Actions, Fernyhough discloses a fiber reinforced rod comprising a plurality of fibers coated with a UV curable resin material, which can be a vinyl ester, and an outer topcoat. Fernyhough, however, does not disclose a thermoplastic hot melt resin topcoat of a polybutylene terephthalate and polyether glycol copolymer material. Rather, references in Fernyhough to a topcoat include (i) an application of the same resin formulation used to coat glass fiber rovings, namely a UV curable resin formulation (col. 5, lines 13-19), and (ii) an ethylene-vinyl acetate (EVA) copolymer to improve adhesion of the rods to a jacketing layer (col. 6, line 54 through col. 7, line 2). The Applicants respectfully submit that a topcoat of a UV curable vinyl ester resin as Fernyhough discloses would result in a permanently rigid outer topcoat when cured. In contrast, the thermoplastic hot melt resin copolymer material of claim 1 results in an outer topcoat that is comparatively less rigid and softens in response to increases in temperature. These properties enable the outer topcoat of claim 1 to exhibit moderate to high tensile strength and moderate elongation in response to tensile stress and thereby help to provide the enhanced properties of specific adhesion, environmental protection and resistance to surface fiber breakage. Similarly, a topcoat of an ethylene-vinylacetate (EVA) copolymer would not exhibit thermoplastic properties as described.

Thus, the Applicants respectfully submit claim 1 is patentably distinguishable from Fernyhough. The rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Fernyhough should be withdrawn.

Claims 2-6 and 23-28 depend from claim 1 and are patentable for at least the reasons given above. The rejection of claims 2-6 and 23-28 under 35 U.S.C. § 102(b) should be withdrawn.

Rejection of Claims 1-5 Under 35 U.S.C. § 102(b)

Claims 1-5 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,479,984 to Levy et al. (hereinafter "Levy"). The Applicants respectfully traverse the rejection of claims 1-5 as being anticipated by Levy for the following reasons.

Amended claim 1 is directed to a compact, fiber reinforced rod for optical cables comprising a plurality of elongated fiber members encased in a matrix of a UV cured vinyl ester resin material, and an outer topcoat layer substantially surrounding said matrix. The outer topcoat layer comprises a thermoplastic hot melt resin of polybutylene terephthalate and polyether glycol copolymer material.

The Examiner indicates that Levy teaches a secondary coating may be applied around a composite of multifilament bundles impregnated with a UV curable resin. (col. 10, lines 37-39). Levy, however, does not disclose or suggest use of a thermoplastic hot resin melt copolymer material as an outer topcoat of the composite disclosed. Rather, Levy merely suggests a secondary coating, but does not teach the thermoplastic hot melt resin copolymer material of claim 1.

Thus, claim 1 is patentably distinguishable from Levy. Accordingly, the rejection of claim 1 under 35 U.S.C. § 102(b) should be withdrawn.

Claims 2-5 depend from claim 1 and are patentable for at least the same reasons. Similarly, the rejection of claim 2-5 under 35 U.S.C. § 102(b) should be withdrawn.

Rejection of Claims 2-8 and 23-28 Under 35 U.S.C. § 103(a)

Claims 2-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fernyhough in view of U.S. Patent No. 4,956,039 to Olesen et al. (hereinafter "Olesen") for reasons of record. Claims 7 and 8 have been cancelled herein. The Applicants respectfully traverse the rejection of claims 2-6 and 23-28 as being unpatentable over Fernyhough as applied to claim 1 in view of Olesen as applied to claims 1-5 for the following reasons.

The Examiner indicates in the Action that Olesen provides the teachings that would motivate one of ordinary skill in the art at the time of the invention to modify the teachings of Fernyhough to form a glass fiber reinforced rod using E-glass and/or S-glass fibers. However, neither Fernyhough or Olesen alone or in combination, disclose or suggest a fiber

reinforced rod of a plurality of elongated fiber members encased in a matrix of a UV cured vinyl ester resin material with an outer topcoat layer substantially surrounding the matrix comprised of a thermoplastic hot melt resin of polybutylene terephthalate and polyether glycol copolymer material. The outer topcoat of claim 1 provides the reinforced rod surface with those thermoplastic properties that help to enhance tensile strength, specific adhesion, resistance to surface fiber breakage and environmental protection. Olesen would not motivate one of ordinary skill in the art to apply the thermoplastic hot melt resin outer topcoat of claim 1 to modify the glass fiber reinforced composites and coatings of Fernyhough.

Thus, claim 1 is patentably distinguishable from Fernyhough in view of Olesen. Claims 2-6 and 23-28 depend from claim 1 and are patentable for at least the same reasons. The rejection of claims 2-6 and 23-28 under 35 U.S.C. § 103(a), therefore, should be withdrawn.

Rejection of Claims 6-8 and 23-28 Under 35 U.S.C. § 103(a)

Claims 6-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Levy as applied to claims 1-5 in view of Fernyhough as applied to claims 1-8 and 23-28. Claims 7 and 8 have been cancelled herein. The Applicants respectfully traverse the rejection of claims 6 and 23-28 as being unpatentable over Levy in view of Fernyhough, as noted.

Similar to the discussion above, neither Levy or Fernyhough alone or in combination teach or suggest the outer topcoat comprising a thermoplastic hot melt resin copolymer material as recited in claim 1. In particular, Levy would not motivate one of ordinary skill in the art to modify any coating of the fiber reinforced composites and coatings of Fernyhough to include an outer topcoat of thermoplastic hot melt resin copolymer material as claimed.

Thus, claim 1 is patentably distinguishable from Levy in view of Fernyhough under 35 U.S.C. § 103(a), as noted. Claims 6 and 23-28 depend from claim 1 and are patentable for at least the same reasons. The rejection of claims 6 and 23-28, therefore, should be withdrawn.

Patentability of Claim 29

The Applicants have added herein claim 29. Claim 29 is directed to a compact, fiber reinforced rod for optical cables comprising a plurality of elongated fiber members encased in a matrix of a UV cured vinyl ester resin material, and an outer topcoat layer substantially surrounding said matrix. The outer topcoat layer is comprised of an ethylene acrylic acid copolymer resin. Neither Fernyhough, Levy or Olesen alone or in combination disclose or suggest an outer topcoat comprising an ethylene acrylic acid copolymer resin. Therefore, claim 29 is patentably distinguishable from these cited prior art references.

For the foregoing reasons, the present application is believed to be in condition for allowance, which action is respectfully requested. Should the Examining Attorney have any questions concerning this response, she is invited to telephone the undersigned at the number provided.

Respectfully submitted,

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